

REMARKS

This Response responds to the Office Action dated July 14, 2004 in which the Examiner rejected claims 1-2 under 35 U.S.C. § 102(e).

Claim 1 claims a probe card comprising a circuit board, a probe needle and a circuit for applying voltage. The circuit board sends and receives electrical signals to test an operation of semiconductor integrated circuits. The probe needle has one end connected to the circuit board and the other end comes into contact with electrodes connected to the semiconductor integrated circuit. The circuit for applying voltage applies voltage to the probe needle to destroy insulating film at the tip of the probe needle.

Through the structure of the claimed invention having a circuit for applying voltage to the probe needle to destroy insulating film at the tip of the probe needle, as claimed in claim 1, the claimed invention provides a probe card which can be used even after contact resistance increases so that testing can be continued. The prior art does not show, teach or suggest the invention as claimed in claim 1.

Claims 1-2 were rejected under 35 U.S.C. § 102(e) as being anticipated by *Chua et al.* (U.S. Patent No. 6,606,235).

Applicants respectfully traverse the Examiner's rejection of the claims under 35 U.S.C. § 102(e). The claims have been reviewed in light of the Office Action, and for reasons which will be set forth below, Applicants respectfully request the Examiner withdraws the rejection to the claims and allows the claims to issue.

Chua et al. appears to disclose the probe cards 7 are also used to test the chips 2 while the chips 2 are still part of a single-crystal silicon wafer. One such probe card 7 is formed by photolithographic pattern plated processing, as disclosed

in Probing at Die Level, Corwith, Advanced Packaging, February, 1995, pp. 26-28.

Photolithographic pattern plated processing produces probe cards 7 which have essentially the same design as the standard probe card 7. However, this new type of processing appears to automate the method for producing probe needles 8, thus avoiding manually forming the probe needles 8. Also, this article discloses a probe card 7 which is bent at the end nearest the probe needles 8, as shown in FIG. 5.

The bend in the probe card 7 allows the probe needles 8 to contact the contact pad 3 at an angle. As the probe card 7 pushes the probe needles 8 into the contact pads 3, a mechanical scrubbing action occurs which allows the probe needles 8 to break through the oxide formed on the top surface of the contact pad 3. (col. 2, line 53 through col. 3, line 3)

Thus, *Chua et al.* merely discloses a mechanical scrubbing action which occurs to allow the probe needles 8 to break through an oxide formed on the top surface of a contact pad 3. Nothing in *Chua et al.* shows, teaches or suggests a circuit for applying voltage to the probe needles to destroy insulating film at the tip of the probe needle as claimed in claim 1. Rather, *Chua et al.* merely discloses a mechanical action which breaks through oxide formed on the contact pad.

Since nothing in *Chua et al.* shows, teaches or suggests a) a circuit for applying voltage to destroy insulating film and b) voltage destroying insulating film at the tip of the probe needle as claimed in claim 1, Applicants respectfully request the Examiner withdraws the rejection to claim 1 under 35 U.S.C. § 102(e).

Claim 2 depends from claim 1 and recites additional features. Applicants respectfully submit that claim 2 would not have been anticipated by *Chua et al.* within the meaning of 35 U.S.C. § 102(e) at least for the reasons as set forth above.

Therefore, Applicants respectfully request the Examiner withdraws the rejection to claim 2 under 35 U.S.C. §102(e).

Thus it now appears that the application is in condition for reconsideration and allowance. Reconsideration and allowance at an early date are respectfully requested.

If for any reason the Examiner feels that the application is not now in condition for allowance, the Examiner is requested to contact, by telephone, the Applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed within the currently set shortened statutory period, Applicants respectfully petition for an appropriate extension of time. The fees for such extension of time may be charged to our Deposit Account No. 02-4800.

In the event that any additional fees are due with this paper, please charge our Deposit Account No. 02-4800.

Respectfully submitted,

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